

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-03900011-2008**

Application Received: **03-27-2008**

Plant Identification Number: **039-00011**

Permittee: **Clearon Corporation**

Facility Name: **South Charleston Chlorinated Dry Bleach Plant**

Mailing Address: **95 MacCorkle Ave., SW South Charleston, WV 25303**

Physical Location: South Charleston, Kanawha County, West Virginia

UTM Coordinates: 438.4 km Easting • 4,246.6 km Northing • Zone 17

Directions: Exit 56 (Montrose Drive) on I-64. Turn right and go to the bottom of the hill and turn left at the light onto MacCorkle Avenue (Route 60). Go to 3rd stop light and turn right. Turn left at first driveway.

Facility Description

Clearon's primary products are purified cyanuric acid and chlorinated isocyanurates also known as CDB. The facility operates on a year-round basis, 24 hours a day, and 365 days a year.

Cyanuric acid is produced from the pyrolysis of urea. The cyanuric acid is used as the feed stock to produce various types of CDB's at the South Charleston Plant. CDB's are produced by chlorinating the cyanuric acid. Cyanuric acid is also sold to other manufacturers for the production of their chlorinated dry bleaches or as CDB stabilizers.

Cyanuric acid and chlorinated dry bleaches are used in production of swimming pool treatment chemicals, cleansers, dishwashing detergents and various other products whose primary functions are cleaning, disinfecting, and sanitizing.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	(2007) Actual Emissions
Carbon Monoxide (CO)	44.2	11.505
Nitrogen Oxides (NO _x)	411.5	83.742
Particulate Matter (PM ₁₀)	---	---
Total Particulate Matter (TSP)	56.4	33.12
Sulfur Dioxide (SO ₂)	2.2	0.72
Volatile Organic Compounds (VOC)	6.9	0.935
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions	(2007) Actual Emissions
Chlorine	8.8	5.4

Some of the above HAPs may be counted as PM or VOCs.

Title V Program Applicability Basis

This facility has the potential to emit 411.5 tons per year of nitrogen oxides (NO_x). Due to this facility's potential to emit over 100 tons per year of a criteria pollutant, Clearon Corporation is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate matter and opacity limits for indirect fuel burning units
	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing processes.
	45CSR10	Sulfur dioxide limits.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR15, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-0894	10/6/86	None
R13-1698	3/18/94	None
R13-1724A	7/17/03	None
R13-1922A	1/28/03	None
R13-2050F	9/15/08	None
R13-2597	10/25/04	None

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

The proposed renewal permit incorporates a number of off permit changes which are summarized as follows:

Date of Submittal	Description
March 26, 2008	Removal of T-1010 urea silo
March 13, 2008	Removal of T-7813A reactor
March 2, 2008	Replacement of T-3136 scrubber liquids tank
	Replacement of Y-970A packaging equipment
March 5, 2007	Removal of two chlorinators, D-501, D-541
February 2, 2008	Replacement of T-7826 acidifier tank
	Modification of C-975 with larger feed screw
	Replacement of top half of chlorine stripper D-7826

The proposed renewal permit also incorporates some minor source NSR permit changes, which were reflected by incorporating the most recent NSR permits. The changes noted below are recognized as the only NSR change since the last Title V modification was issued on 01-09-08 (MM02).

As a result of permit number R13-2050E being approved on 04-21-08 the emission limits found within 5.1.1. of the Title V permit were revised to reflect the removal of the T-1010 urea silo. This in effect removed the emission limitations for its associated emission point ST-001. As a result, the only limits that

remain are those associated with the T-1010 silo bypass, emission point ID ST-176. Additionally, parametric monitoring associated with the silo and C-1010 baghouse was removed from 5.1.4. and 5.1.5.

Clearon Corp. was originally permitted by an earlier NSR version of R13-2050 to install a cyanuric acid (CA) unloading station, so that additional raw material could be bought rather than made on site and processed into dry bleach as demand governs. However, due to logistics, this equipment was never installed. This resulted in the removal of existing Title V requirements 5.1.6 – 5.1.9. During the processing of this renewal permit an additional minor source NSR permit was approved under permit number R13-2050F. This permit incorporated a rail car unloading station for crude CA rather than a bag unloading station. Since the new unloading station does not incorporate any pneumatic solid transfer operations, no additional control equipment was installed. The rail car unloading operation generates fugitive emissions via transfer points associated with the use of an unloading pit, screw feeder, bucket elevator and unloading hopper and scales. These operations are subject to 45CSR§7-5.1 and plan to minimize fugitive dust by constructing a building enclosure around the operations, building 520.

The 45CSR7 PM emission limit for ST-176 was removed as a stand-alone requirement in 5.1.8. and streamlined with the PM limitation of 5.1.1. Additional changes were incorporated in the proposed Title V permit as a result of detailed applicability review initiated during the permit renewal process. The most notable of which can be found within section 6.0. This section encompasses crude cyanuric acid production through the use of 4 calciners. These calcining kilns utilize indirect heat transfer within various heat zones to calcine a urea slurry. Therefore, the applicable particulate matter requirements are broken up into those for combustion sources (45CSR2) and those for manufacturing sources (45CSR7). It seems that in the original permit the associated emission points were switched. The combustion sources had manufacturing process limits and vice versa. The applicable requirements remain consistent within the proposed Title V permit; however their associated emission points were switched between limits 6.1.2. and 6.1.3. of the operating permit.

Combustion emissions from Kiln A (ST-102/ST-103), Kiln B (ST-122/ST-123), Kiln C (ST-162/ST-163), and Kiln D (ST-1802) are required by 45CSR§2-3.1 to be maintained below ten percent opacity. Weekly visible emission observations will be required to demonstrate compliance with this limit. These emission points were previously regulated as a manufacturing process, 45CSR7, however due to the indirect method of heating, the combustion side of the urea calcination process is more appropriately regulated as a fuel burning unit under 45CSR2. Therefore, the opacity limit changed from 20% to 10% as a result. Since natural gas is provided as the fuel, the source should be able to maintain a substantial compliance margin by following work practice/maintenance standards associated with burner operations.

Likewise, the process side emissions from the kilns are identified as emission points ST-130, ST-131, ST-171, ST-1806 and regulated as manufacturing processes, which are subject to the 20% opacity requirements of 45CSR7 as well as an hourly PM limit based on weight rates. The process sides of the kilns are highly controlled with water scrubbers followed by ammonia incinerators. Therefore, PM emissions from the manufacturing process should exhibit a substantial compliance margin. Calciner D, which is also permitted by minor source NSR permit R13-2050 has demonstrated compliance through testing with a PM limit a full order of magnitude smaller than that established by 45CSR7.

Streamlining language was also added to 6.1.2 to recognize that the manufacturing PM requirement for the D calciner would be streamlined with the more stringent NSR limitation incorporated within 6.1.6. Additional streamlining language was inserted into 6.1.1 and 6.1.2. to recognize the PM and opacity requirements as equivalent or more stringent to those defined by 45CSR6. Therefore, the original incinerator requirements of 6.1.3., and 6.1.4., were no longer necessary.

It was noted by the reviewing engineer, most baghouse operating limits, contained within the original permit were based on a maximum values with no associated minimum limits. The minimum value pertaining to the pressure differentials as well as fan amperages were not deemed as necessary for demonstrating efficient operations, in this case, as a result of the control equipment capturing not just air pollutants, but product. After talking to the production operator during a site visit, it was apparent that if the bags clog up the unit has to shut down and perform maintenance as a result of slow or no product transfer. Likewise, if a bag should break the operator would also have to shut down in order to prevent product losses during the transfer. Therefore, the monitoring, which only incorporate a maximum performance indicator remains adequate for demonstrating compliance with PM limitations, because in

practice, at least for this specific case, the bags are changed based on maximum pressure drop before they have a chance to break or fail.

Clearon also submitted a best management practices (BMPs) document, which was added to the Title V application. These BMPs were determined necessary to define inspection criteria associated with the D-222 and D-232 scrubbers. The inspection and recordkeeping requirements were revised within permit condition 7.3.3., to reference the BMPs submitted by Clearon on 10-03-2008. The established operating parameters for scrubber liquid flow and the operation of the vacuum blower are monitored continuously via the digital control system in the control room and become part of the weekly inspection document, which verifies the control equipment is operating properly. The BMP also mentions the scrubbers receive weekly inspections as well as regularly scheduled preventative maintenance as recorded by Clearon's maintenance tracking system. Additionally, an internal inspection of each control device is also conducted annually.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

40 C.F.R. 63, Subpart ZZZZ – Each of the three emergency generators were evaluated for area source reciprocating internal combustion engine (RICE) applicability. It was found that these sources, EG-100, EG-200, And EG-400 were all constructed before June 12, 2006, which classifies them as an existing source and therefore, not regulated under the current standard. However, the factsheet of the regulation states that existing RICE sources located at area facilities is expected to be proposed early 2009. The future standard may apply if it encompasses existing area RICE > 500 Hp.

40 C.F.R. 64, Compliance Assurance Monitoring (CAM) – The permit writer has determined that CAM would not apply based on the following:

- Only pollutant exceeding a potential of 100 tons/yr is NO_x.
- The source is not required to use controls to meet NO_x limitations.

Request for Variances or Alternatives

None

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: October 28, 2008

Ending Date: December 1, 2008

All written comments should be addressed to the following individual and office:

Jesse Hanshaw, P.E.
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The

Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Jesse Hanshaw, P.E.
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
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Response to Comments

No comments received.